

CLAIMS

1. A supply current usage control system in or for use in a power supply path
5 for an apparatus, which system comprises:

timer control means which may be set to specify a total time duration for
which supply of operating current to said apparatus is to be permitted to flow through
the supply path;

10 switch means controllable by the control means for permitting or interrupting
the flow of operating current through the supply path; and

current flow detection means for detecting the flow of apparatus operating
current and for providing an output to said timer control means indicative of operation
of said apparatus to enable determination of the cumulative time of operation of the
apparatus.

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2. A supply current usage control system according to claim 1, wherein the
current flow detection means is or may be set with an offset current threshold, whereby
standby currents below the threshold are ignored for the purpose of determining the
duration of the flow of apparatus operating current indicative of actual operation of the
20 apparatus.

3. A supply current usage control system according to claim 1 or 2, wherein the
timer control means can be set both to determine a cumulative apparatus operational use
period and to specify a specific daily time period or time periods during which this
25 cumulative use period may be built up.

4. A supply current usage control system according to any preceding claim,
wherein the system comprises an adapter that can be plugged into an electric supply
socket and which can have an apparatus supply cable wired to it or plugged into it and
30 is provided with security arrangements to prevent unauthorised unplugging or unwiring
of the apparatus supply cable.

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5. A supply current usage control system according to any of claims 1 to 3, wherein the system is built into a wall socket.
6. A supply current usage control system according to any of claims 1 to 3, wherein the system is built into the apparatus to be controlled.
7. A supply current usage control system according to any preceding claim, comprising a master unit and at least one slave unit which controls the supply current to an associated apparatus, wherein the master unit controls the or each slave unit to determine the total usage of all the apparatus connected to the system.
8. A supply current usage control system according to claim 7, wherein the master unit controls the supply current to an associated apparatus.
9. A supply current usage control system according to any of claims 7 or 8, wherein the master unit communicates with the or each slave unit using transmission over mains, IRDA, or RF signals.
10. A supply current usage control system according to any of claims 7 to 9, wherein the master unit may be connected to a PC for programming.
11. A supply current usage control system according to any of claims 7 to 9, wherein the master unit comprises a PC.
12. A supply current usage control system according to any of claims 1 to 3, wherein the system is part of a house central computer controlled house unit where the timing control means is constituted by a central computer unit and the current flow means is incorporated in or in association with a wall socket in the house.
13. A supply current usage control system according to any preceding claim, wherein means are provided to prevent or restrict alteration of the set time other than by the authorised person.

14. A supply current usage control system according to claim 13, wherein a tamper switch arrangement is provided, which arrangement is designed to produce a signal for said control means to set the usable period to zero in the event of unauthorised tampering or apparent tampering with the system.

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15. A supply current usage control system according to claim 14, wherein the tamper switch is in the form of a micro-switch with an operating pin or button in contact with the inside of a lockable casing or other security arrangement for the system, for part of the system or for the timer unit of the system and which micro-switch causes a signal to be sent to the control unit if the casing is opened or attempted to be opened by an unauthorised person.

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16. A supply current usage control system according to claim 13, wherein the system employs key operated means or password systems to ensure time settings may only be changed by those in possession of the key or password.

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17. A supply current usage control system according to any preceding claim, wherein audible and/or visual warning means are provided to give an audible and/or visual signal a specified period before operating supply current is to be switched off by the control means.

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18. A supply current usage control system according to any preceding claim, wherein the timer control means or setting means for the timer control means is in a remote control unit separate from the wall socket unit or adapter unit having the current flow detection means and switch means, with signal transmission and reception means being provided between the units.

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